

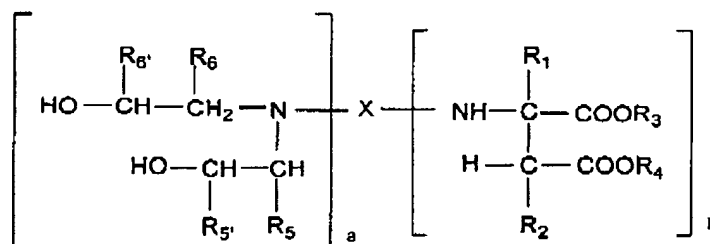
**REMARKS**

Claims 1-4 are pending in the application. Applicants note with appreciation the Examiner's assistance in clarifying the office action in the telephone interview of March 24<sup>th</sup>, 2005.

**Rejections under 35 U.S.C. § 103(a)**

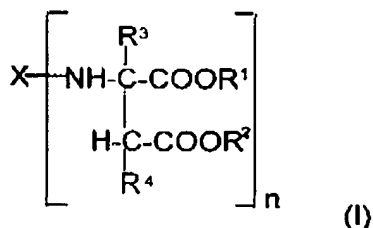
Claims 1-4 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. 5,243,012 to Wicks et al., U.S. 5,236,741 to Zwiener et al. or U.S. 5,126,170 to Zwiener et al. Applicants respectfully traverse this rejection.

The present invention is generally directed to an aspartate of the formula:



as defined more fully in the application and claim 1.

Wicks, Zwiener '170 and Zwiener '741 all disclose compositions for the preparation of a polyurea coating which contain a) a polyisocyanate component and b) at least one compound generally corresponding to the Formula I,

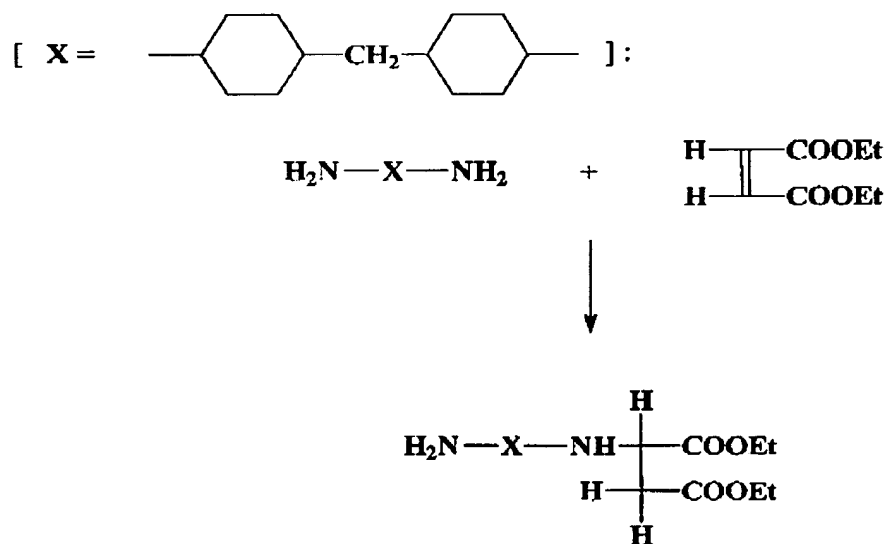


as defined more fully in those patents. Applicants do not dispute the Examiner's assertion that the "X-aspartate" portion of the molecules shown in Claim 1 are shown in Wicks, Zwiener '170 and Zwiener '741, and that the method of making this portion of the compounds claimed is generally as described in the cited patents.

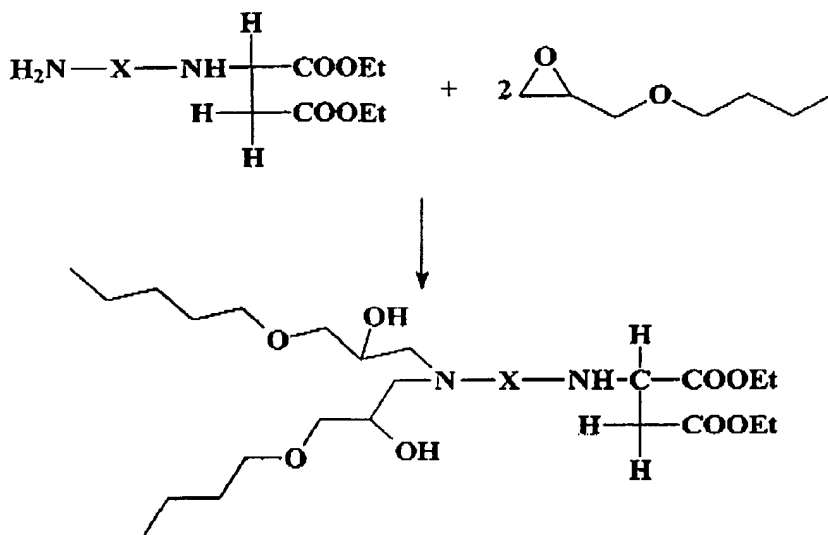
The Examiner asserts in the advisory action and the previous office actions that the compounds of Claim 1 are somehow inherently formed in the compositions disclosed in the three patents, as the patents are asserted to show "the same reactants under the same conditions as the claimed process then with alkylene oxides... etc". Applicants respectfully submit that the claimed compounds are not inherently formed or disclosed in any of the patents cited above, nor is the process of making these compounds disclosed, for the following reasons.

In the present invention, in the first example, propylene oxide adduct of amino-aspartate is reacted with isocyanate functional isocyanurate based on hexamethylene diisocyanate. The preferred diamine is hexamethylene diamine; while the preferred maleate is diethyl maleate.

The first step is the preparation of the monoaspartate



The second step is the conversion of the primary amine into a bis-ethanol amine by use of butyl glycidyl ether:

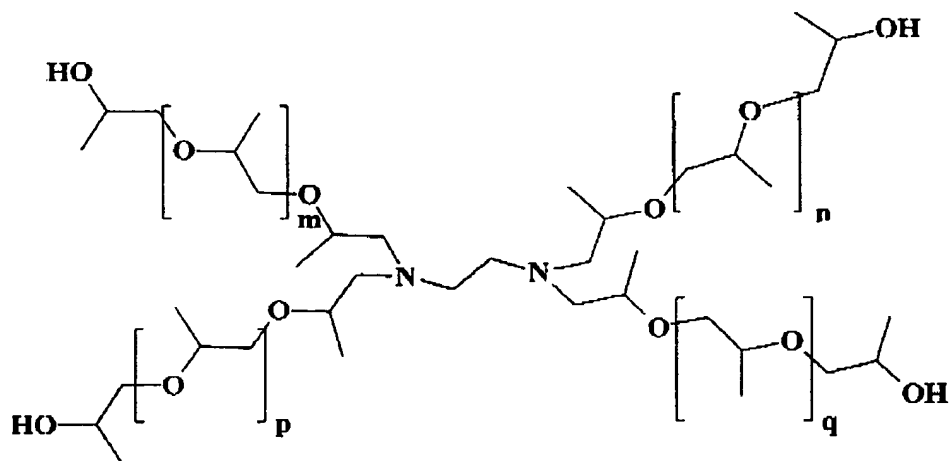


As can be seen in the above discussion, the oxirane compound is reacted directly with the aspartate intermediate. No such reaction occurs in the cited patents.

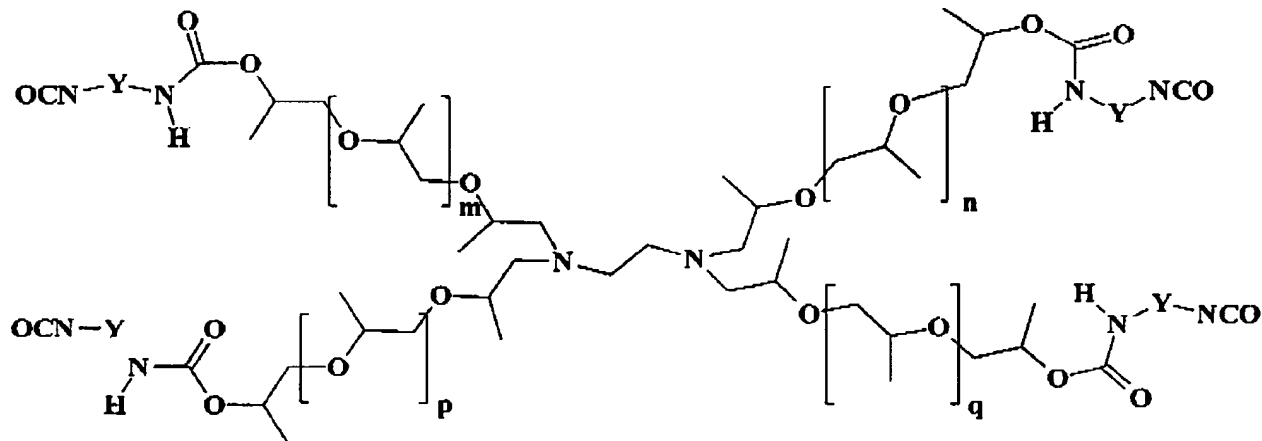
The polyisocyanate component of the composition shown in all three cited patents can be prepared from isocyanate prepolymers prepared from polyether polyols obtained by alkoxylation of suitable starting materials, including, for example, alkylene oxides such as ethylene oxide or propylene oxide (column 4, lines 28-41 of Wickes; also described in Zwiener '170 and Zwiener '741). The Examiner reads these statements to include the reaction of the alkylene oxides with the intermediate aspartates of the present invention. However, this is an incorrect reading of the patent, as none of the cited patents describe reacting an alkylene oxide (or any other oxirane such as cycloalkylene oxides or phenylglycidyl ether, as recited in Claim 2) directly with an aspartate, nor is this reaction inherently occurring in the process/composition described in these patents.

Using Wicks as an example of the reaction chemistry occurring in all three patents, Wicks describes that the preferred polyether-polyisocyanate adducts are prepared from an amine started polypropylene oxide tetraol with a molecular weight Mo-7926

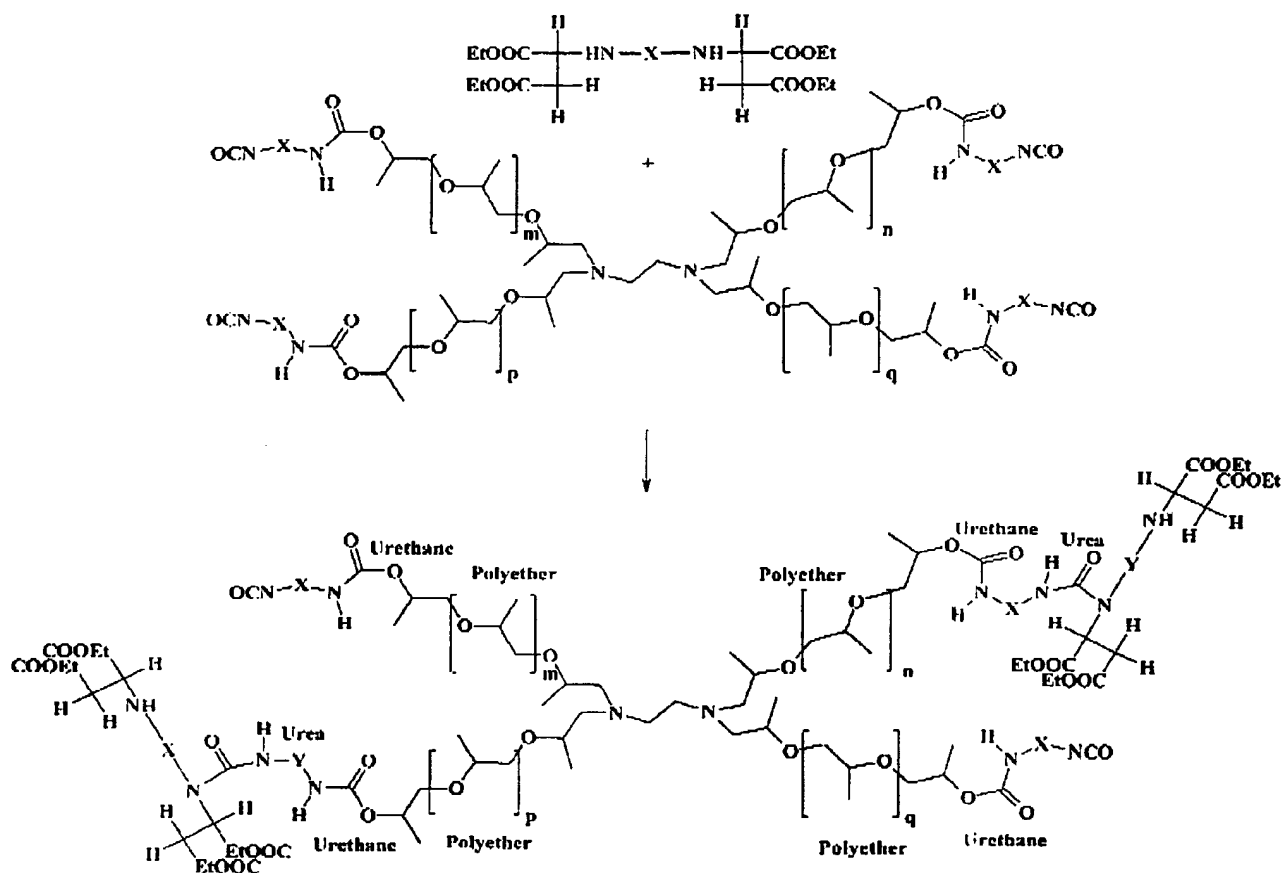
of 1000 to 5000. The following uses ethylene diamine as the starter diamine, where  $m + n + p + q = \sim 10$  to 80:



The polyether tetraol is reacted with a diisocyanate, for example, hexamethylene diisocyanate to prepare the prepolymer [ $Y = (CH_2)_6$ ]:



This prepolymer is then reacted with a diispartate to give a polyether-urethane-urea:



Of course, the isocyanate will continue to react with secondary amine to give the crosslinked network. The crosslinked network will consist of urethane, urea and polyether bonds.

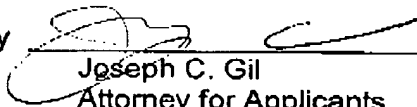
As can be seen from the above example, the compounds of Claim 1 cannot be formed from the reactants used in any of the cited patents, and thus the compounds of Claim 1 are not inherent in the prior art; they are novel and nonobvious. Additionally, there is absolutely no teaching or suggestion in the cited patents of a process of preparing the claimed compounds, as recited in Claim 2: reacting an oxirane compound, for example an alkylene oxide, with an aspartate to arrive the compounds of Claim 1. The reactants used in the cited patents are not "mixed in any sequence", as asserted by the Examiner. All three patents show preparation of the aspartate, which is then mixed with a polyisocyanate which can be

prepared from a prepolymer, as described above. Applicants respectfully submit that the compounds shown in Claim 1, the process of making the compounds as recited in Claim 2, and depending Claims 3-4 are not obvious in view of the cited references and request withdrawal of the §103 rejection.

**CONCLUSION**

Applicants respectfully submit that all pending claims, Claims 1- 4, are patentable and that the present application is in condition for allowance; such action is respectfully requested at an early date.

Respectfully submitted,

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